Wiltshire Archaeological & Natural History Magazine, vol. 95 (2002), pp. 131-46

An Anglo-Saxon Decapitation and Burial at Stonehenge

by Mike Pitts[1], Alex Bayliss[2], Jacqueline McKinley[3], Anthea Boylston[4], Paul Budd[5], Jane Evans[6], Carolyn Chenery[6], Andrew Reynolds[7] and Sarah Semple[8]

Most of a human skeleton excavated at Stonehenge in 1923, believed destroyed in the London bombing of 1941, was re-located in 1999. New study of the bones shows them to represent a man of Anglo-Saxon era (not Neolithic or Roman as previously suggested) aged 28-32, born in central southern England. He had been beheaded, probably with a sword. The historical context for this incident is discussed.

The re-discovery in 1999 and preliminary examination of a human skeleton from Stonehenge were reported widely in the media, following a press conference at English Heritage's London headquarters on 9th June 2000, and a further press release (at which the first of two radiocarbon dates was announced) on 14th July. The background to these events, and the making of a television film, are described elsewhere (Pitts 2001). Here we put on record full details of the research.

ARCHAEOLOGY

by Mike Pitts

Skeleton 4.10.4 (the number allocated in 1938 by the Royal College of Surgeons of England) was recovered by William Hawley. He came across the grave by chance during the course of the largest excavation programme at Stonehenge, conducted between 1919 and 1926 (Cleal *et al.* 1995). It is one of three more or less complete human skeletons found by Hawley at Stonehenge (Figure 1). All three were thought lost. The first (found March 1922 in the ring ditch) was discarded by the excavator, who felt (on debatable evidence) that 'obviously it was a modern interment' (Hawley 1923, 18). 4.10.4, found November 1923 and the third, inside the stone circles on the central axis, in August 1926, were taken to the Royal College of Surgeons, London. The College was bombed in 1941, and its contents, including many human remains recovered in British excavations, were believed (at least by archaeologists) totally destroyed (Pitts 1999).

Human remains are common at Stonehenge: 77 find contexts are definitely prehistoric (Phases 1-3); 67 may be more recent ('Phase 3 or later' or unphased) (McKinley 1995, Tables 57-8). In addition, a human tarsal was found near the Heelstone in a context containing a medieval sherd (Pitts 1982, 90). Many prehistoric cremation burials have also been excavated, mostly in or close to the ring ditch. Perhaps as many as 50 of these are now reburied in Aubrey Hole 7 (Pitts 2001, xiii and chapter 15).

But only one other articulated skeleton has been found, in the ditch in 1978 (Figure 1). The man

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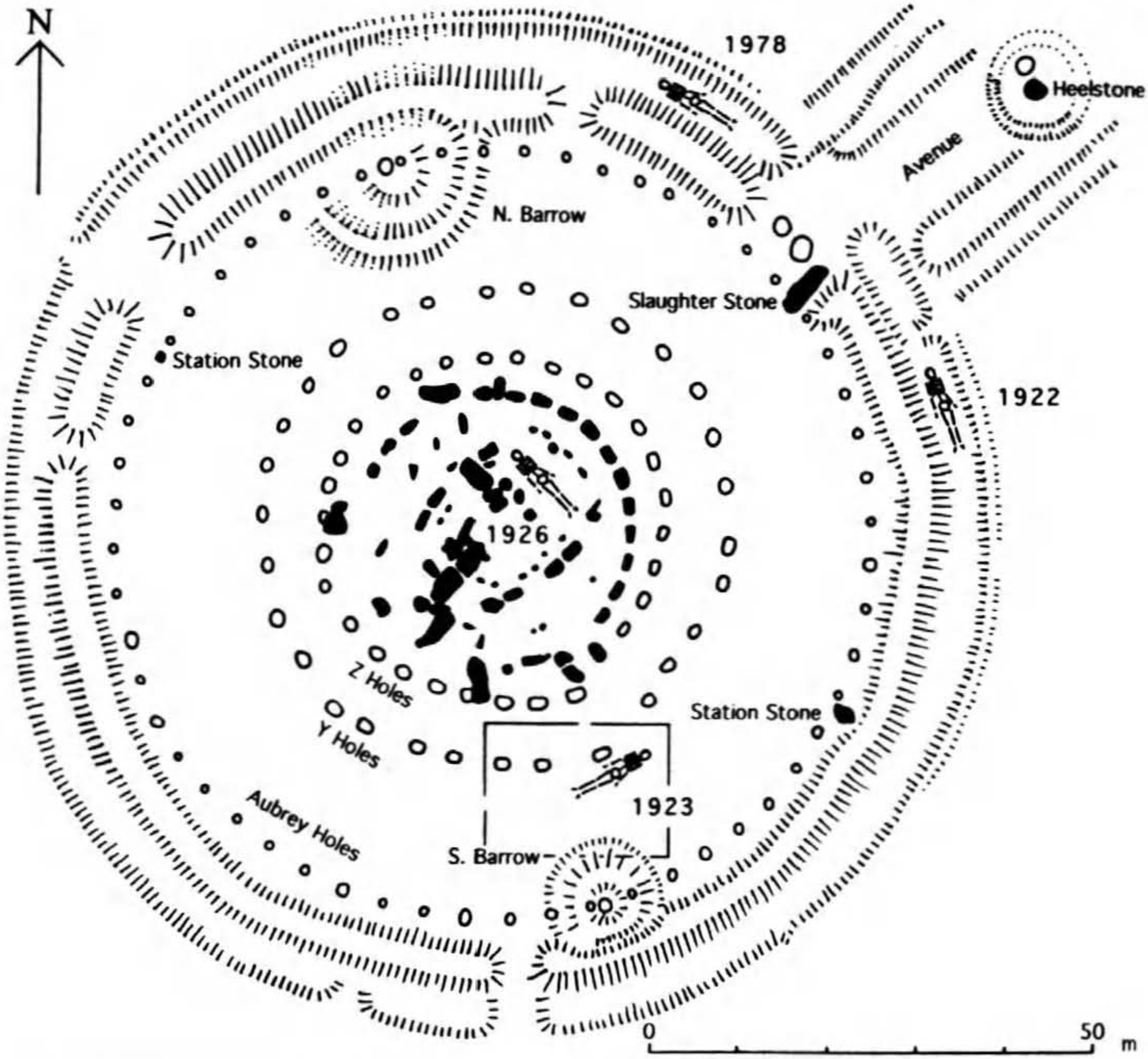

Fig. 1. Stonehenge, showing location of four known articulated human skeletons, with their year of excavation. The orientation of 1922 is not recorded.

apparently died from the impact of at least four flint-tipped arrows, around 2300 cal BC (Evans *et al.* 1984; Pitts 2001, chapter 14). This was the only directly dated human bone from Stonehenge, apart from a cremation burial shown to pre-date 2000 cal BC in an early analysis (Cleal *et al.* 1995, 519). The 1926 skeleton remains unlocated (it may have been returned to Hawley: Pitts 2001, 302 and footnote 638), and the 1922 one is presumably somewhere in the ground.

Received date

In 1999 burial 4.10.4 was thought Neolithic, or possibly Roman. Hawley initially believed it Neolithic, because the grave fill, which he 'sifted', contained no artefacts or stone fragments. He had identified a 'Stonehenge Layer' of debris from megalith dressing which blanketed most of the site. Anything found beneath this 'layer' he ascribed to a pre-Stonehenge date (Hawley 1920-26, 2-3 November).

Arthur Keith (Royal College of Surgeons) proposed the burial was Roman, 'or more probably [from] the centuries immediately preceding' this era, on the evidence of skull shape. Hawley accepted this judgement without comment (Hawley 1925, 31-3), as he did Keith's identification of the individual as male: Hawley had earlier written in the diary (until the rediscovery, the most complete description) that it was female. Keith's full report (perhaps no more than a letter) does not appear to have survived.

Richard Atkinson, whose book was the key published source for Stonehenge archaeology in the second half of the last century, favoured a later date. He was influenced by the nature of the grave: 'the [body's] extended attitude (if such it was) and the somewhat perfunctory disposal ... point to a date not earlier than the Romano-British period' (Atkinson 1979, 62). In the recent detailed Stonehenge report, the authors reverted to Hawley's original argument. The lack of debris in the grave fill pointed to an early date in the site's history, 'before the interior became littered with stone fragments' (Cleal *et al.* 1995, 267-8).

Rediscovery

Pursuing a trail created by Wessex Archaeology (who had prepared the recent monograph: Cleal *et al.* 1995), I found that much of the Royal College of Surgeons' ancient human remains collection (from perhaps as many as 800 individuals) had survived the 1941 bombing. Recovered items had been driven out to country houses around London. After the war they had come back, eventually to be sorted and, in the case of the archaeological human bones, given to the Natural History Museum (4.10.4's post-cranial remains in 1948, the skull in 1955). There are many other items of interest to archaeology in this collection, not least the medieval 'barber-surgeon' from Avebury (Pitts 2001, chapters 16 and 30).

Unknown to archaeologists, skeleton 4.10.4 had already been 'discovered' in 1975. Wystan Peach, a Welsh dentist who believed the remains were of King Arthur, paid for a radiocarbon date (see below). Some of the details of this date emerged during the production of the television film, when we interviewed Penrhyn Peach about his late father's work.

W. Peach submitted a paper to *Antiquity* in August 1977 (4.10.4 had been dated the year before). We have not been able to find a copy of this paper, which was rejected by the editor. Peach had earlier described his ideas in a privately published booklet (Peach 1961). He believed Arthur, the architect of Stonehenge, was alive in 1800 BC (then thought to be the construction date). This suggestion derived from an eccentric reading of the *Mabinogion*, a collection of medieval Welsh tales (Pitts 2001, chapter 30).

I brought Jacqueline McKinley, who had recently completed an analysis of all surviving human remains from Stonehenge (McKinley 1995), to see the skeleton. She identified the lesions in the cervical vertebra. Anthea Boylston kindly later conducted a fuller examination. (The full sequence of events from excavation to examination is described at www.hengeworld.co.uk/news.html).

The grave

Hawley and assistant Robert Newall left both a written description of the excavation and a section drawing of the pit, making 4.10.4's grave one of the better recorded Stonehenge features (Figure 2). The published report (Hawley 1925, 31-3) briefly summarises the field diary (1920-26, November 2-3, 6).

Hawley found the grave with a workman named Player on a Friday, and it was excavated by Hawley and Newall the next day. Much of the diary entry is devoted to the bones (confirming identification of 4.10.4 with the skeleton in this grave). The pit 'was very roughly cut and only sufficiently cut in the solid chalk [26 inches/66 cm 'below ground level'] to contain the trunk of the body'. It was also 'insufficiently long [64 inches/1.63 m] so that the neck and shoulders had to be forced into a curve and pressure seems to have been exerted upon the pictoral [sic] portion as all the ribs were contracted and forced together and all were in a broken state with the exception of two'. The skull, too, was in poor condition, 'from being near the surface [16 inches/40 cm 'below ground level'] and also from pressure exerted upon it'. Measurement of the skeleton (see below) confirms that the man was probably slightly too tall to fit comfortably in the pit.

Other measurements recorded are the pit's 'width at upper end' (24 inches/61 cm) and 'at lower end' (17 inches/43 cm), probably the ends containing head and feet, respectively. The 'direction of the grave was towards ENE', which might imply that the head was at the easterly end. The grave fill is described as 'earthy chalk ... much compacted by pressure and of quite a different nature to the loose stuff filling the [adjacent] post holes', and 'hardened chalk ... returned to the grave'. This fill 'contained nothing'; a footnote in the diary states that 'contents of grave [were] sifted without any result'. Over the fill ('upon the hardened upper surface') was 'loose chalky earth of a later period which contained 3 pieces of rhyolite and 1 of quartzite and there were several large natural flints about . . . The grave was so shallow that . . . the Stonehenge stratum was only 1½ inch [4 cm] above [the skull] ending at 14½ inch BGL [37 cm 'below ground level']'. These measurements fit the observation (above) that the skull was 16 inches 'below ground level'. The latter is thought to be the modern turf level (Cleal *et al.* 1995, 16).

As noted above, Hawley and Cleal *et al.* argued from the absence of stone fragments in the pit, and the overlying 'Stonehenge layer' (albeit apparently containing only four stone pieces) that the grave was 'pre-Stonehenge'. The simplest way of accommodating this with the much later radiocarbon date for the skeleton, is to note that the grave fill seems to have been almost pure chalk, presumably thrown straight back into the pit at the time of its creation: there is no necessary reason for any extraneous material to have joined the backfill.

The grave was close to Early Bronze Age Y Hole 9, but apparently not intersecting it (Figure 2). There were also post holes in the area, two with direct relationships with the grave pit. Unfortunately, it is not now possible to be certain what those were, although Hawley apparently thought grave succeeded post holes. The pit 'was cut between 2 post holes which were included in it and their circular sides remain at the ends of the grave'. This is held to explain the short length of the grave, the excavators being 'unwilling to extend it beyond the limits of the post holes'. A further somewhat ambiguous remark seems to corroborate this: 'Those who dug the post hole came upon a very large flint at the top end and as they [excavators of post hole or grave?] were unable to remove it by battering it they [grave diggers] left the grave shorter than they otherwise would have done'.

From other diary entries, it appears that Hawley's notions of stratigraphic sequences, and his use of a word like 'cut' (as in one feature cutting through another) were quite flexible. He gives no clear evidence for relationships between post holes and pit. However, by itself the plan suggests these features might have been contemporary, and it is possible the grave was marked by a small post at each end. The pit is aligned with a row of post holes to the east (Figure 2): this, too, could be post-Roman in date, not Neolithic, as conventionally assumed in the absence of dating evidence. Re-excavation of the area might throw further light on this.

In summary, the man was buried, in what appears to have been an isolated incident, in a shallow pit not quite long enough to accommodate his unconstrained corpse. The pit was aligned east north-east/west south-west (approximately tangential to the stone circles at that point), with the head probably at the easterly end. The grave was sited on the south-east side of the stone circles, facing Amesbury (invisible behind the downs). There is no record of which way up the body lay, but it can be assumed that had it been prone (face down) this would have been noted. The grave fill consisted of the excavated chalk, packed down hard over the body. There may have been a post standing at each end. No artefacts were found with the skeleton.

RADIOCARBON DATES

by Alex Bayliss

In 1975 two leg bone shafts were sent to Harwell A.E.R.E. for radiocarbon analysis. Peach's manuscripts record the result as 1190±80 BP, but no further data are available (such as laboratory number). Peach noted 'it was felt that insufficient bone was submitted and the bone had been treated. No further bone was submitted and the bone sample was used' (undated lecture typescript). This result cannot now be used for dating purposes.

New samples (10 gm each) were processed as outlined in Bronk Ramsey *et al.* 2000 and measured using accelerator mass spectrometry (Bronk Ramsey and Hedges 1997). The two measurements are not statistically significantly different (T'=3.4; T'(5%)=3.8; v=1) and so a weighted mean can be taken before calibration (Ward and Wilson 1978). The results are expressed as conventional radiocarbon ages (Stuiver and Polach 1977).

The calibrated date range for the weighted mean has been calculated using OxCal v3.5 (Bronk Ramsey 1995), the maximum intercept method of Stuiver and Reimer (1986), and the dataset of Stuiver *et al.* (1998). The range has been rounded outwards to 10 years.

Table 1. Radiocarbon dates for skeleton 4.10.4

Laboratory Number	Radiocarbon Age (BP)	s13C (‰)	s15N (‰)	C:N Ratio	Weighted Mean (BP)	Calibrated range (2s)
OxA-9361	1359±38	-19.7	7.6	3.2	1397±32	cal AD 600–690
OxA-9921	1490±60	-19.5	8.1	3.3		

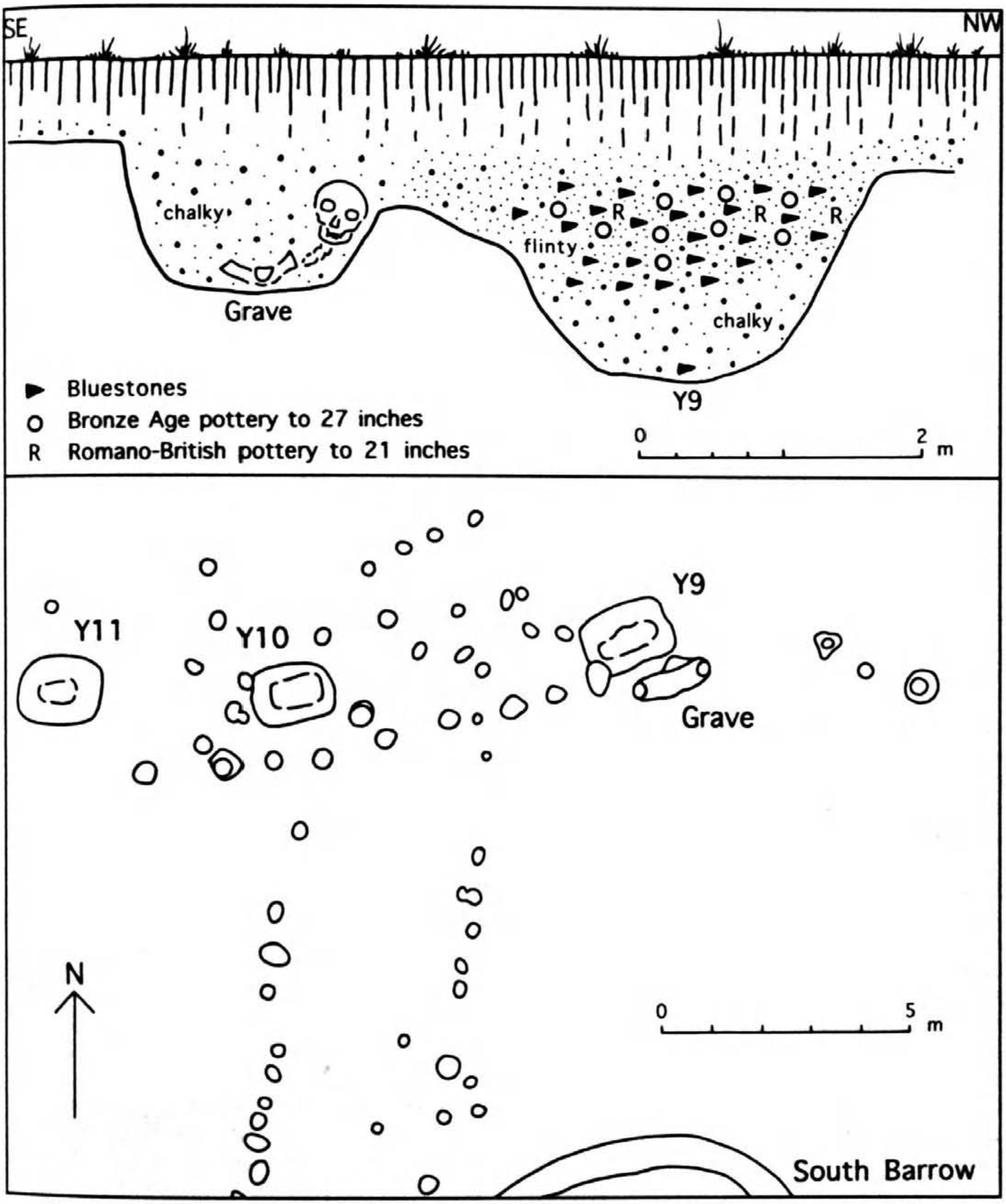

Fig. 2. Newall's schematic section drawing of the grave pit (top) and the surrounding area as planned by the Office of Works (redrawn from originals). Comments by Hawley suggest that not all excavated post holes were recorded (Pitts 2001, footnote 259). See Figure 1 for plan location.

The stable isotope values are consistent with a very largely terrestrial diet, with only a minor component of marine protein (Chisholm *et al.* 1982; Mays 2000). The C:N ratios suggest that bone preservation was sufficiently good to have confidence in the radiocarbon determinations (Masters 1987; Tuross *et al.* 1988).

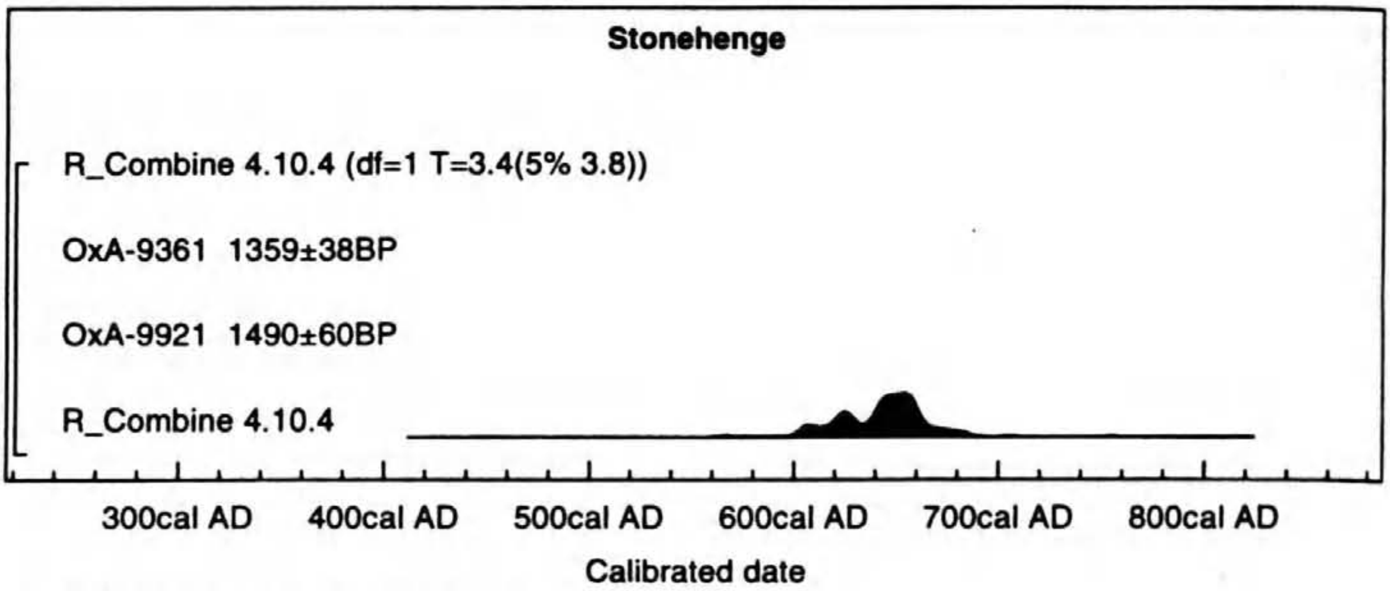

Fig. 3. Probability distribution for date of Stonehenge skeleton 4.10.4.

THE SKELETON

by Jacqueline I. McKinley and Anthea Boylston

The initial identification of the traumatic spinal lesions was made by Jacqueline McKinley during informal examination of the skeletal remains, a full examination later being undertaken by Anthea Boylston (see above). The results presented here were compiled by the former from the data collected by the latter and observations made by both writers.

Methods

Age was assessed from the stage of skeletal and tooth development (Beek 1983; McMinn and Hutchings 1985) and the general degree of age-related changes to the bone (Brooks and Suchey 1990; Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (Buikstra and Ubelaker 1994). Cranial index was calculated according to Brothwell (1972), stature estimations according to Trotter and Gleser (1952; 1958).

Results

The bone was in good condition, though there had been some damage – with subsequent reconstruction – to the skull and the pelvic bones, and all the bone had been coated with some form of varnish. The mid-shaft region of the right tibia and left femur had been removed for radiocarbon dating in 1975 and replaced by plaster casts.

About 90% of the skeleton was present for examination (hand and foot bones, and the ribs were missing), the remains representing those of an adult male of about 28-32 years. The stature of the individual was estimated at 1.65m (*c.* 5ft 4 1/2 inches). This places him within the range, but below the average, observed within a number of Romano-British and Early Anglo-Saxon phase cemeteries in the south-west region: averages include 1.66m at Poundbury (Molleson 1993, 167-168), 1.69 at Tolpuddle Ball (McKinley 1999) and 1.71 at Ulwell (Waldron 1988) all in Dorset, and 1.67 at Boscombe Down, Wiltshire (McKinley forthcoming). The cranial index is 72.7, which is within the dolichocranial (long-headed) range. Whilst it has been observed that there was an increasing trend towards long-headedness within the Anglo-Saxon period (Marlow 1992); *c.* 42% of the individuals from the Romano-British cemetery at Boscombe Down, Amesbury, about 2km to the east, also fell within this range, though the mean index was higher at 76.

The man had slight osteophytes (marginal new bone) in the 7th-10th thoracic vertebrae and Schmorl's nodes (defects in the vertebral body surface resulting from disc damage) in the 8th-9th thoracic, a not unusual observation at a time when most individuals endured physically active lives. The muscle insertions for upper limb - *pectoralis major, latissimus dorsi* – indicate strong attachments and possible minor strains, again suggestive of strong physical activity involving the upper body. There is anterior curvature in the right femur and both fibulae have curved medial shafts with flattened distal ends at different angle to shafts. Slight periosteal new bone on the posterior surface of the right femur and medial surface of the right tibia is indicative of non-specific infection in the membranes covering the bone. The mandible was squared at the angles and mental protuberance (chin), and the individual had a pronounced overbite.

The decapitation

The man had been decapitated, the head apparently being removed via a single blow from the rear-right side, cutting through the fourth cervical vertebra (Figure 4) and clipping the left mandible in the inferior-posterior aspect of the ramus (i.e. the part

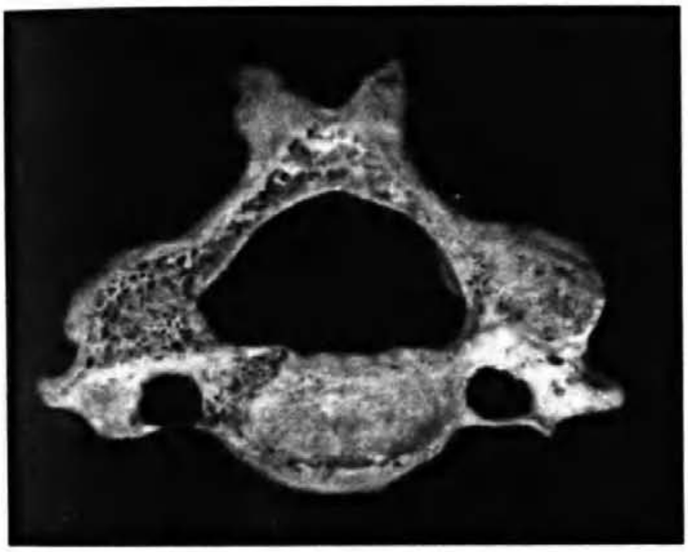

Fig. 4. Fourth cervical (neck) vertebra from 4.10.4, showing cut surfaces exposing spongy interior. Photo copyright Natural History Museum.

of the mandible nearest the neck, where it angles-up to articulate with the rest of the skull: Figure 5). The single, clean cut must have been made with a sharp, narrow but relatively robust blade, cutting through the right superior portion of the dorsal part of the C4 (the spine of the vertebra), the superior portion of the right articular process and the

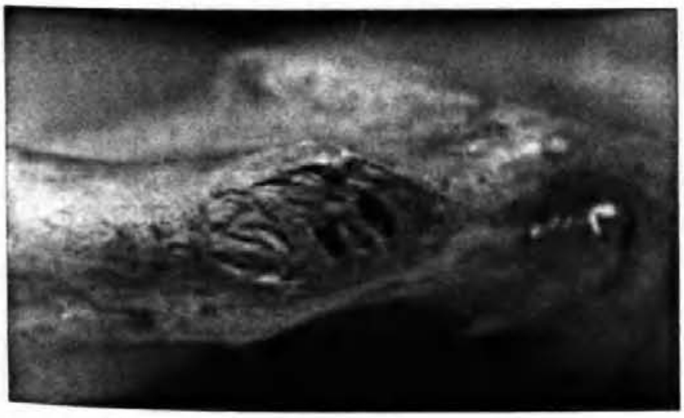

Fig. 5. Right mandibular ramus of 4.10.4 (i.e. back angle of lower jaw). Photo copyright Natural History Museum.

margins of the right lateral-dorsal portion of the body, clipping the left superior articular process and body margins of the superior surface.

The assailant must have been standing behind the victim. Although vertebrae between the second cervical to the first thoracic have been recorded as points of severance in decapitations, the mid-cervical region – as in this case – appears to have been the most common, with occasional trauma to the mandible or occipital vault (back of the head) also being observed. It has been noted that the use of a 'block' – which would help direct the aim, keep the neck straight and limit the movement of the victim's body when struck - invariably leads to a cut at the mid-neck level (Manchester 1983). However, one would not expect to see damage to the mandible in such cases. Variations in methods of execution also include the victim kneeling with the head up, which may also allow for a good aim at the neck but could potentially result in damage to the mandible if the victim dropped the head slightly or they moved forward a little on being struck.

Decapitation has been observed in numerous cemeteries of this date (e.g. Harman *et al.* 1981; McKinley 1993; Boylston 2000) and the reasons suggested for its use have included both execution of defeated enemies or criminals and sacrificial ritual (Wilson 1992). There are several Anglo-Saxon cemeteries which seem likely to have functioned as execution sites – including significantly high percentages of decapitations and prone burials - such as Wor Barrow and Roche Court Down (Harman *et al.* 1981), and South Acre, Norfolk (McKinley 1996), the latter being one of those associated with a Bronze Age barrow (Wymer 1996).

It cannot be assumed that this male was an ethnic Anglo-Saxon. West Wiltshire lay on the margins of Anglo-Saxon occupation at this time (Eagles 2001) and the individual may have been a native Briton.

LOCATING THE EARLY CHILDHOOD RESIDENCE OF THE INDIVIDUAL

by Paul Budd, Jane Evans and Carolyn Chenery

A tooth from skeleton 4.10.4 was analysed to see if the man's origins could be pinpointed, using a new technique that considers traces of oxygen, lead and strontium.

Principles

The reconstruction of residential mobility from the analysis of dental enamel is based on systematic natural variations between localities of the isotopes of a number of elements. Lead, strontium and oxygen all have isotopes which vary in this way and can be used for this purpose (Budd *et al.* 1999; in press a; in press c; Montgomery *et al.* 2000). Elements with isotope ratios characteristic of specific environments become incorporated into enamel during tooth formation in childhood. The enamel is highly resistant to change after death and hence retains this early life isotopic 'signature' (Budd *et al.* 2000a).

Strontium has four isotopes, one of which, 87Sr, is derived from the radioactive decay of rubidium over geological time. The concentration of this isotope, measured as a ratio to its non-radiogenic sister 86Sr, depends on both the rubidium content and age of the rock in which it is found. Strontium is taken up by biological systems, but the relative proportions of its isotopes remain unaltered in the process (Blum *et al.* 2000). As a result, soil, plant and ultimately human enamel strontium isotope ratios all remain closely related to (although not necessarily *exactly* the same as) those of the hydrology and underlying geology of the region in which the individual lived when the tissue was formed: early childhood in the case of permanent human teeth.

Lead has four stable isotopes, but in this case three (206Pb, 207Pb and 208Pb) are formed by radioactive decay (of uranium and thorium). Therefore geological concentrations of these three isotopes, expressed as ratios to the only non-radiogenic lead isotope, 204Pb, depend on both the parent uranium and thorium contents of the rock or mineralising fluid, and the time since deposition. In pre-metallurgical societies the main source of lead in the diet, like strontium, was from the underlying geology via the food chain. In such cases it is possible to use the lead isotope composition of tooth enamel to comment on place of origin in a manner directly analogous to that of strontium. Later however, and especially in the Roman and medieval periods, ore-derived lead becomes dominant as the source of human exposure as a result of the use of lead metal, its alloys and products (Budd *et al.* 2000b).

Oxygen isotopes are highly complementary in producing information related to place of childhood residence, but by virtue of climatic rather than geological variation. Unlike lead and strontium, the much lighter isotopes of oxygen are readily altered by biological processes. Fortunately however, mammalian tooth and bone are composed of biological apatite and organic material formed at constant temperature (37°C) so that the oxygen isotope ratio of skeletal phosphate directly relates to that of body fluids and local, meteoric, drinking water (Fricke *et al.* 1995; Levinson *et al.* 1987). A simple calibration is all that is required.

Analysis

The Natural History Museum removed the upper left first premolar and replaced it with a cast. A clean core enamel sample was then extracted for analysis using the methods described by Budd *et al.* (in press a; c). Lead and strontium isotope ratio analyses and concentration analysis using the isotope dilution method were performed at NIGL by Thermal Ionization Mass Spectrometry (TIMS) using a Finnegan Mat 262 multi-collector mass spectrometer. Errors (all 2s) were calculated from repeat measurements of the international standard for strontium (NBS 987, n=10) and lead (NBS 981, n=16) during the period of analysis. Oxygen isotope sample preparation was carried out at NIGL using the laser fluorination method described by Budd *et al.* (in press b; c). A V. G. Isotech Optima dual inlet isotope ratio mass spectrometer operating Micromass DI2.47 software was used to determine the enamel oxygen isotope composition d18O. Errors (2s) were calculated by reference to repeat measurements of phosphate mineral standards, NBS 120b (n=6) and NBS 120c (n=2). O-isotope data were calibrated using Levinson *et al.* (1987). Results appear in Table 2.

Table 2. Analysis of tooth from skeleton 4.10.4

Tooth enamel 206Pb/204Pb isotope ratio: 18.62 ± 0.02

Tooth enamel 207Pb/204Pb isotope ratio: 15.82 ± 0.02

Tooth enamel 208Pb/204Pb isotope ratio: 39.06 ± 0.05

Lead concentration of enamel: 2.2 ± 0.3 ppm

Tooth enamel 87Sr/86Sr isotope ratio: 0.70837 ± 0.00003

Strontium concentration: 55 ± 5 ppm

Aqueous leachate of soil from near burial site 87Sr/86Sr isotope ratio: 0.70794

Childhood drinking water d18O value: –7.8 to –7.3‰

he lead isotope values obtained are typical of UK ad ores and suggest, as suspected, that this ıdividual's lead exposure was dominated by ore-erived lead, presumably from manufactured roducts. This is confirmed by the relatively high ılthough not extreme) enamel lead concentration hich is broadly comparable to those of modern eople, but an order of magnitude higher than rehistoric people living in the same area (Budd *et l.* 2000b). The lead data are therefore not iagnostic with respect to place of origin, but do uggest that the individual had childhood access to :ad-bearing metals or products. The oxygen isotope omposition of the enamel is typical of meteoric rater falling on the UK, but defines specific parts f it. The oxygen isotope composition of rainwater ; normally principally related to latitude, but is listorted into a west to east pattern by Britain's naritime climate and prevailing winds. The values ıbtained map out a broad band of possible locations unning down the centre of the country (Figure 6) Darling *et al.* 1999).

The Sr data allow us to refine this picture :onsiderably. The soil strontium isotope neasurement is consistent with previously reported lata for Cretaceous chalk geology from southern England (Budd *et al.* in press c; Montgomery *et al.* 2000). The low tooth enamel 87Sr/86Sr ratio is within a range (<0.7085) more-or-less restricted n the UK to areas of Cretaceous chalk geology of which the main outcrops occur in southern England and the Yorkshire Wolds (Figure 6). Combining the oxygen and strontium data, the zone of overlap defines the only area to meet both criteria. Parts of this are local to Stonehenge although it extends primarily to the north and east of the monument. We conclude that this area (dark shaded in Figure 6) is the most likely place of early childhood residence for this individual.

Fig. 6. Map of the UK with isobaric contours showing the range of oxygen isotope composition for modern meteoric water (after Darling et al. *1999). The broad shaded band shows the area over which present day meteoric water has an O-isotope composition* ($d^{18}O_{SMOW}$) *in the range -7.8‰ and -7.3‰. This is the composition of childhood drinking water for the individual investigated, calculated from the tooth enamel composition. The map also shows (light shading) the approximate extent of surface geology yielding* $^{87}Sr/^{86}Sr$ *values of less than 0.7084. This is essentially confined to the Cretaceous chalk of southern England and eastern Yorkshire. The area of overlap, represented by dark shading to the north and east of Stonehenge, is the most likely area of childhood residency for 4.10.4.*

HISTORICAL CONTEXT

by Andrew Reynolds and Sarah Semple

Central southern England in the 7th century is characterised by dynamic political activity in terms of the formation of the kingdom of Wessex (Yorke 1995, 52-93). Christianity became established during the course of the 7th century and a series of further cultural transformations relating to burial practices, settlement patterns and types, and social organisation can be observed. Overall, the archaeological and historical records bear witness to the emergence of ruling élites and an increasingly hierarchical ordering of society as a whole.

The Stonehenge burial makes a further contribution to our understanding of early medieval political and administrative history, particularly the development of liminal burial for the socially excluded. Before the conversion of the Anglo-Saxons to Christianity during the 7th to early 8th centuries AD, peculiar burials, often prone or decapitated, are found almost without exception in communal burial grounds (Reynolds in preparation). A survey of Early Anglo-Saxon burials from Wiltshire reveals only one prone burial, from the Blacknall Field cemetery near Pewsey (B. Eagles pers. comm.), whilst, apart from the Stonehenge example, decapitations are not recorded from the county between the 5th and 7th centuries.

The rarity of deviant burials in Wiltshire may be partly a function of the limited number of excavated 5th-7th century AD cemeteries. In regions where more Early Anglo-Saxon cemeteries are known, the figures rise accordingly. In adjoining counties there are three prone burials from Abingdon (Oxon), one from Frilford (Oxon), four from Lechlade (Gloucestershire), one from Droxford and two from Worthy Park (Hampshire) and three from Camerton (Somerset) (Leeds and Harden 1936, 31, 36, 40-1; Rolleston 1869, 437, 477; Boyle *et al.* 1998, Aldsworth 1979, 114; Hawkes and Wells 1975, 118; Horne 1933, 55, 63). Decapitations from adjoining counties are limited to four examples from Hampshire, one each from Alton and Andover (Portway) and two from Winnall (Evison 1988, 29; Cooke and Dacre 1985, 29, 56; Meaney and Hawkes 1970, 12, 14). The scarcity of decapitation relative to prone burial can be seen nationally: eighty-eight prone burials contrast with forty-four examples of decapitation (Reynolds in prep.). Where dateable, both prone and decapitation burials in Early Anglo-Saxon cemeteries are overwhelmingly of the 6th or 7th centuries AD. The Stonehenge decapitation, then, should be viewed in a context of pre-existing practice, apparently part of an increasing desire to mark deviant status through burial rite leading up to and during the conversion period.

Throughout the 7th century single burials are mostly rare high-status interments in mounds, as at Taplow, Buckinghamshire, Asthall, Oxfordshire and Roundway Down and Swallowcliffe Down, Wiltshire (Geake 1997, 146; Dickinson and Speake 1992; Semple and Williams 2001; Speake 1989). These barrow burials are seen to reflect the emergence of powerful élites and the formation of kingdoms with their geographical isolation emphasising a new social order (Welch 1992, 90). Isolated flat graves of late 6th to 7th century date include those of the smith from Tattershall Thorpe, Lincolnshire and the high-status female from Winthorpe Road, Newark, Nottinghamshire (Hinton 2000; Samuels and Russell 1998). These two burials are unusual in their own right, and serve to underline the range and peculiarity encountered in 7th century funerary practice (Geake 1992, 89). The Stonehenge find, however, is one of a very few clearly 'deviant' burials of 7th century date. Other comparable examples vary in character, and include the mutilated skeleton 'Q1' found buried in the Neolithic bank barrow inside Maiden Castle, Dorset, dated by radiocarbon to the first half of the 7th century, and the body of a woman found in a well at the Roman town of Mildenhall (Cunetio) in 1949 dated to the 6th century (Brothwell 1971; Meaney 1964, 271-2). Spatial 'otherness' was apparently not limited to those at the very top of the social scale, although it should be remembered that two other skeletons found at Stonehenge remain undated.

Early medieval burial at prehistoric stone settings is unusual but not unprecedented. Cremations and inhumations have been found at Little Rollright, Oxon, (Meaney 1964, 260; Lambrick 1988, figure 9), and a radially-arranged group of inhumations was found at a small stone circle at Yeavering, Northumberland (Hope-Taylor 1977, 95-118). Much more frequent, however, are early medieval burials at prehistoric barrows, hillforts, ring-works and linear ditches (Williams 1997; Semple 1998). Burial at Bronze Age round barrows clearly predominates and sites range from large inhumation cemeteries of the 6th century (e.g. Uncleby, East Yorkshire) to isolated single burials of late 7th century date (e.g. Swallowcliffe Down and Roundway Down).

As well as the stone circles, Stonehenge consists of a circular earthen bank and ditch, single megaliths and mounds. Perhaps the complexity of the monument attracted burial in the 7th century, with the 'barrows' diametrically opposed within the henge providing an additional appeal. It is common for early medieval burial to occur at complexes with a range of prehistoric monuments (e.g. Stanton Harcourt and Dorchester-on-Thames, Oxfordshire).

The reuse of prehistoric monuments for funerary purposes is found as early as the 5th century, becoming widespread by the 7th century. However, despite 9th or even 10th century AD occurrences (e.g. Ogbourne St. Andrew, Wiltshire), the practice is very rare beyond the late 7th and early 8th centuries, with the exception of the formal execution cemeteries of 8th-12th century date (Reynolds 1999, 105-10).

From the 8th century, texts and place-names assist study of changes in funerary practice. Of particular interest is the emergence of the motif of the burial mound as a haunted place (Semple 1998). In Old English poetic and prose sources, prehistoric monuments are often associated with supernatural entities, such as the god Woden and other monsters, demons and elves. The development of political and mortuary practices between the 8th and 10th centuries involved the use of prehistoric monuments, barrows in particular, as places of execution and disposal of executed criminals. Certain prehistoric monuments thus changed from performing a positive social role, to a negative one, paralleling the move from pre-Christian mortuary practice to Christian burial.

Decapitation and burial

The absence of finds might indicate that the Stonehenge corpse was stripped before burial, although metal dress fittings were apparently not ubiquitous during the 7th century when changes in burial customs led to a marked decline in grave finds in comparison to the 6th century (Owen Crocker 1986, 107). Burial took place in a shallow grave that was too short and with the head placed in on top. The position of the hands is not recorded, but only 20 per cent of decapitations from later Anglo-Saxon execution cemeteries have the hands tied, either behind the back or to the front (Reynolds 1998, 161-2). The forcing of bodies into cramped graves suggests outcast status, with a lack of effort and a degree of contempt evident in the whole process.

Postholes at either end of the grave would be difficult to explain, but it is just possible they held a gallows of two uprights and a cross-beam similar to that depicted in an early 11th century manuscript (BL MS Cotton Claudius BIV, f. 59). Pairs of postholes, presumably gallows settings, have been recognised from middle to late Anglo-Saxon execution cemeteries at South Acre, Norfolk, Stockbridge Down, Hampshire and Sutton Hoo, Suffolk (Wymer 1996; Hill 1937; Carver 1998). Hawley's comment that the circular sides of each of the postholes could be seen at either end of the grave brings to mind comparable features from early Anglo-Saxon (5th-7th century) cemeteries, notably St Peter's, Broadstairs, Kent (Hogarth 1973).

Execution by decapitation was rare in the later Anglo-Saxon period. Beheaded skeletons might be unusual at execution cemeteries (4-12 per cent of all bodies) or, in a minority of cemeteries, the dominant occurrence (56-80 per cent) (Reynolds 1998, 457-8, table 113). The earliest West Saxon laws of King Ine of Wessex (688-725) (Attenborough 1922) prescribe hanging and the striking off of hands and feet for various offences (I 18, 24 and 37). A further clause (I 20) notes that a person 'travelling off the highway' might be slain (OE *sleanne*); a terminology suited rather better to the sword than the gallows. The earliest explicit reference to decapitation, however, is to be found in the 10th century laws of Edgar (959-975) as a punishment for swearing falsely that livestock were bought in front of witnesses (IV Edgar 11). A series of drawings from Late Anglo-Saxon manuscripts show decapitation scenes and in each case the instrument used is a sword (BL MS Cotton Claudius BIV, f. 38; BL MS Cotton Cleopatra CVIII, f. 16v; BL MS Harley 603, ff, 7v, 19, 59 and 75v).

Archaeology of execution

The Stonehenge execution burial is of especial importance as one of the earliest known located both at a prehistoric monument and in a boundary zone. The execution burials at Sutton Hoo have 7th century origins (Carver 1998), but their relationship to prehistoric remains there is uncertain. Maiden Castle, however, the burial place of the mutilated man noted above, is located on the boundary between the Dorset Domesday Hundreds of Cullifordtree and St George. About thirty execution cemeteries of Middle and Late Anglo-Saxon date are now recognised, and virtually all of these re-use earlier monuments located on hundred or shire boundaries (Reynolds 1999, 108). The hundred itself was a self-contained judicial territory that maintained the various agencies necessary to uphold the law (prisons, courts, places of judicial ordeal, execution sites), at least by the later Anglo-Saxon period.

Other probable execution victims from 8th and 9th century contexts include the two women, one perhaps staked out, found on the Thames foreshore, London, and the woman from Yarnton, Oxfordshire, buried face-down in a ditch close to a contemporary family burial plot (Wroe-Brown 1999, 13; Hey pers. comm.). Execution cemeteries dated from about AD 800 by radiocarbon occur at several sites including Staines, Surrey, and Cambridge (Poulton pers. comm.; Mortimer pers. comm.). A more local example is provided by the bounds of a remarkably detailed land charter of AD 778 for an estate at Little Bedwyn, 30 km north-east of Stonehenge

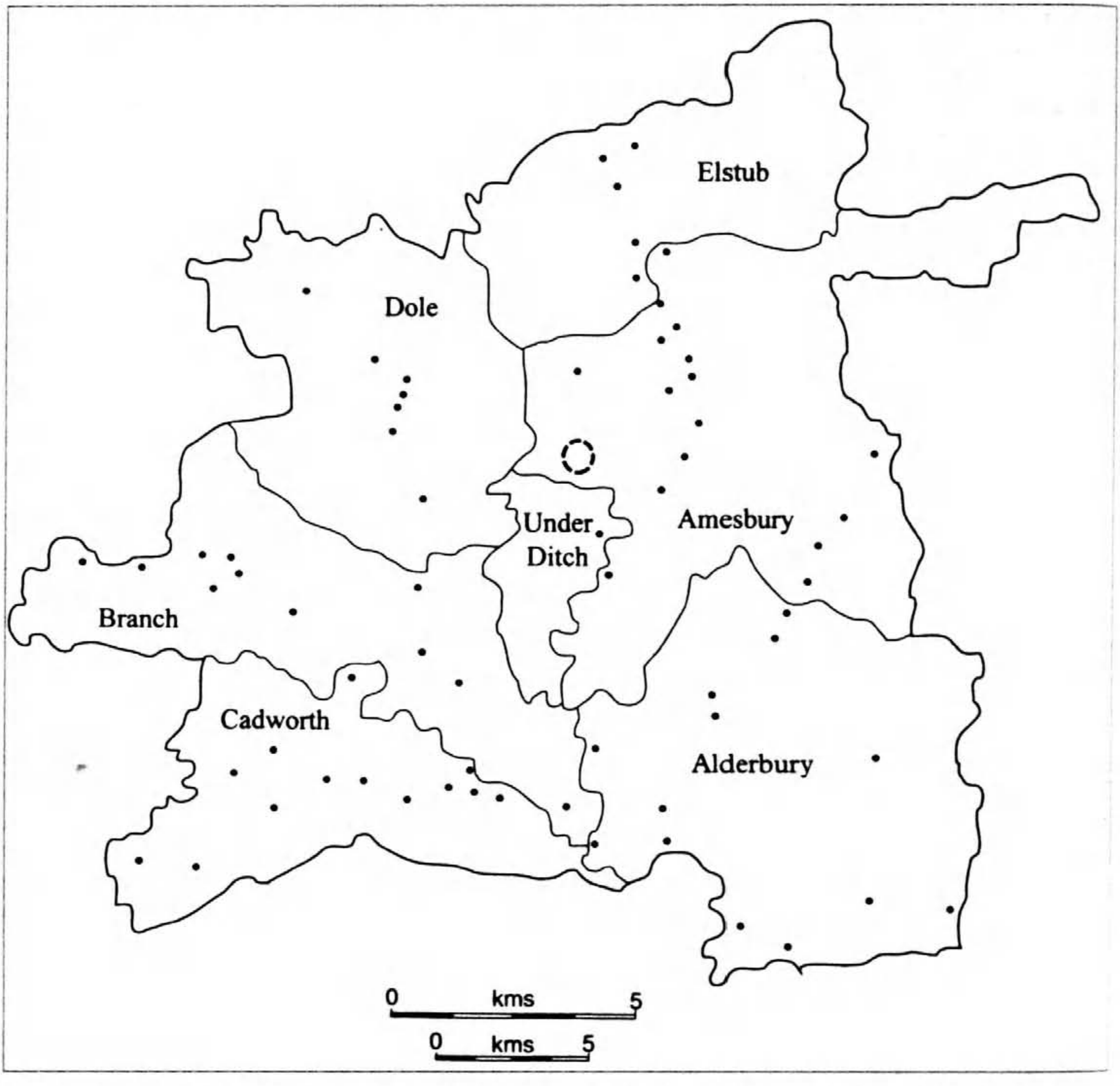

Fig. 7. Stonehenge in relation to boundaries of the Domesday Hundreds of south-east Wiltshire. Black dots show valley-based Domesday settlement pattern.

(Sawyer 1968, cat. no. 264). The Latin boundary clause records the northern edge of the estate (and also that of the Domesday Hundred of Kinwardstone): '*in longum valli progressa in illa antiqua monumenta in locum ubi a ruricolis dicitur. æt ðam holen stypbum. Sicque ad illos gabulos. In longum gemærweges. to wadbeorge...*' (and so along the dyke to those ancient monuments to the place the natives call 'at the holly stumps'. and so to the gallows. along boundary way. to woadbarrow...). This early boundary clause thus encapsulates the characteristics of the excavated cemeteries noted above. Between the mid 9th and the 11th centuries, 15 sets of charter bounds record the locations of 12 named burials, demonstrating the continuation of isolated burial from the 7th to the 11th century (Reynolds in press, cat. nos. 52-66).

Landscape context of 4.10.4

The territorial context is of particular interest. Stonehenge lies 800m north of the boundary between the Domesday (1086), and potentially much earlier, hundreds of Amesbury and Underditch (Figure 7). One might suggest a 7th-century date for the origins of what became hundreds here by or at about the time of the

Stonehenge execution. Indeed, the shire and undredal units of Wessex are generally considered o represent an administrative and political andscape whose origins lie in the 7th century Yorke 1995, 89-90, 125-6). The eastern boundary f the Domesday Hundred of Underditch is hard o define (Darlington 1955, 180; Jones 1865, 188; Pitt 1999, figure 3; Thorn and Thorn 1979, map; RCHME 1980, xxix). Nevertheless, the various ttempts at reconstruction of the hundredal pattern f the region all agree over the position of the undred's northern boundary with that of Amesbury.

It might be suggested, then, that the Stonehenge execution and burial took place not only at a highly visible place, but also close to the edge of a contemporary territory in a landscape characterised by a range of earlier monuments. Indeed, many of he Bronze Age barrows and linear earthworks around Stonehenge are incorporated into the boundaries of Anglo-Saxon estates and hundredal units. Whether the hundredal units reflect a post-Roman tribal landscape of so-called 'micro-kingdoms', or an administrative structure planned on a grander scale as early as the 7th century is difficult to judge, but either model allows for the Stonehenge burial to be placed in the context of locally, and probably regionally, recognised political geography.

CONCLUSION

There was nothing in the archaeology or folklore of Stonehenge to suggest that anything like the incident documented here had taken place (Pitts 2001, 308-9; Grinsell 1976). Geoffrey of Monmouth's story, recorded about 1136, that Stonehenge was a memorial to native soldiers killed by Saxon invader Hengist, and subsequently the burial site of Aurelius Ambrosius and Utherpendragon, has been regarded as myth rather than history (Piggott 1941); neither of the last two men is said to have been decapitated.

This is, then, a dramatic case of an apparently simple archaeological find raising important historical questions. It is the oldest indication we have that Stonehenge had significance in recent centuries, at least 440 years before the first written references by Henry of Huntingdon and Geoffrey of Monmouth in the 1130s. Previously only the name itself (one possible derivation being from Old English for stone gallows) testified to earlier interest (Chippindale 1994, chapter 1). Equally it is clear that archaeological information will be instrumental in any further understanding of the man's death, both from judicial or sacrificial execution grounds and other burial locations, and from Stonehenge itself. It is remarkable that conclusive evidence for a decapitation and burial at Stonehenge in the 7th century AD should have survived nearly 80 years only now to have been recognised. There could hardly be greater indication of the importance of excavation archives.

ACKNOWLEDGEMENTS

Pitts would like to thank all other contributors, whose work was only partly compensated by television fees or himself, and the Natural History Museum for their support of this project, including the photos reproduced as Figures 4 and 5. The radiocarbon dating was kindly funded by English Heritage. Reynolds and Semple thank Alex Langlands for Figure 7.

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